

OKHOTNIKOV, G.I., inzh.; SHUSTROV, D.N., kand.tekhn.nauk

Insure dependability in transportation and regularity of traffic.  
Rech.transp. 18 no.7:12-44 JI '59. (MIRA 12:11)  
(Inland water transportation)

IVANOV, L.A.; SHUSTROV, D.N., retsenzent, red.; MAKRUSHINA, A.N., red.  
izd-va; BOBROVA, V.A., tekhn.red.

[River harbor roadsteads] Reidy rechnykh portov. Moskva, Izd-vo  
"Rechnoi transport," 1960. 74 p. (MIRA 13:6)  
(Inland navigation) (Harbors)

SHUSTROV, D., kand.tekhn.nauk; ANDREYEV, P., inzh.

Technical progress in inland navigation. Rech. transp. 19  
no. 6:9-10 Je '60. (MIRA 14:2)  
(Radio in navigation) (Inland navigation)

SHUSTROV Dmitriy Nikiforovich; SUKOLENOV, Aleksandr Yevdokimovich;  
**BELOUSOV, B.I.,** redsentsent; SVIRIDOV, A.A., red.;  
MAKRUSHINA, A.N., red. izd-va; BODROVA, V.A., tekhn. red.

[Modern methods of work organization in river transportation]  
Sovremennye metody organizatsii raboty rechnogo transporta.  
Moskva, Izd-vo "Rechnoi transport," 1961. 88 p.

(MIRA 15:4)

(Inland water transportation) (Industrial organization)

SHUSTROV, D., kand.tekhn.nauk

Improving methods of planning the needs of the merchant fleet.  
Rech.transp. 20 no.6:13-14 Je '61. (MIRA 14:6)  
(Inland water transportation—Equipment and supplies)

SHISTOV, M.

Selection of electric power supply systems for agricultural  
areas. Vest. AN Kazakh. SSR 20 no.8:50-61 Ag '64. (MIRA 17:11)

MUSINA, B.M.; SHUSTROV, E.P.;

Evaluating the costs of electric power distribution taking the economic consequences of voltage drop in consumers units into account. Izv. AN Kazakh. SSR. Ser.tekh. i khim.nauk no.3:87-95 '64. (MIRA 17:2)

MAYZEL, I.S., inzh. nauk; SHUSTROV, E.P., inzh.

Consideration of expenditures on the compensation of voltage  
and power losses in the design of electrical networks. Izv.  
vys. ucheb. zav.: energ. 8 no.7:113-115 J1 '65. (MIRA 18:9)

1. Kazakhskiy nauchno-issledovatel'skiy institut energetiki.

L 9286-66 EWT(d)/EWT(m)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(z)/EWP(b)/EWP(l)

ACC NR: AP5028412 EWA(c) IJP(c) SOURCE CODE: UR/0229/65/000/010/0055/0055  
MJW/JD/HM

AUTHORS: Kupin, N. V.; Kalinin, N. I.; Shustrov, I. I.

43  
39  
03

ORG: none

TITLE: Spot welding of aluminum alloys with low-power machines

SOURCE: Sudostroyeniye, no. 10, 1965, 55

TOPIC TAGS: spot welding, aluminum alloy, welding electrode/ STE 34 electric transformer, MTP 150 welder, AMtsAM aluminum alloy, AMg6M aluminum alloy, D16AT aluminum alloy, D16AM aluminum alloy

ABSTRACT: Experience has shown that the low-power MTP-150 spot-welding machine can be redesigned for aluminum-alloy spot-welding installations. The power of the machine is increased by connecting an STE-34 welding transformer as a booster in its primary circuit. It is suggested that the  $Al_2O_3$  film be left on aluminum alloy parts to be spot-welded with low-power machines, since its presence facilitates heat removal. It is advisable, however, to remove the film from the electrode side of the part, since this reduces the contact resistance. The use of a special electrode (see Fig. 1) makes it possible to produce 25 to 30 spot-welds without cleaning the electrode. Electrodes with diameters of 7.5, 8.0, 8.5, and 9.5 mm should be used for welding metals 1.0, 1.2, 1.5, and 2.0 mm thick, respectively. Redesigning of the MTP-150 made

Card 1/2

UDC: 621. 791. 763. 1 :669.715

L 9286-66

ACC NR: AP5028412

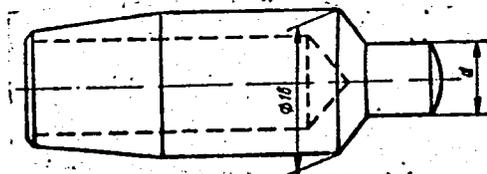


Fig. 1. Shape and size of electrode.

it possible to weld AMtsAM, AMg6M, D16AT, D16AM, and other aluminum alloys with thicknesses to 2--2.5 mm. Orig. art. has: 2 diagrams.

SUB CODE: 13/ SUBM DATE: none/ ORIG REF: 003

BC

Card 2/2

SHUSTROV, M.

For technical progress and improvement in production. Sov.  
profsoiuzy 4 no.2:47-51 F '56. (MLRA 9:5)

1. Predsedatel' zavkoma profsoyuza Podol'skogo mekhanicheskogo  
zavoda imeni M.I. Kalinina.  
(Podol'sk--Sewing machines)

SHUSTROV, M.; KRAVTSOV, A., inzhener.

Radically improve working conditions in a foundry. Sots.trud.  
no.1:104-108 Ja '57. (MLRA 10:4)

1. Predsedatel' zavkoma Podol'skogo mekhanicheskogo zavoda imeni  
M.I. Kalinina.  
(Podol'sk--Foundries)

SHUSTROV, M.M.

Promotion of advanced experience by the technological study room at  
the Podol'sk Machinery Plant. Biul.-tekh.-i inform.Gos.nauch.-issl.  
inst.nauch.i tekhn.inform. 18 no.9:54. S '65. (MIRA 18:10)

SHUSTROV, Mikhail Mikhailovich.

[Industrial conferences in our factory] Proizvodstvennye seveshchania  
na nashem zavode. Moskva. Izd-vo VTSSPS Profisidat, 1955. 86 p.  
(Industrial management) (MLRA 9:6)

ACC NR: AT6020233 (N) SOURCE CODE: UR/2589/65/000/077/0033/0036

AUTHOR: Shustrov, S. V.

ORG: none

TITLE: Transistorized ferrite frequency dividers for quartz clocks

SOURCE: USSR. Komitet standartov, mer i izmeritel'nykh priborov. Trudy institutov Komiteta, no. 77(137), 1965. Issledovaniya v oblasti izmereniya vremeni i chastoty (Research in the field of time and frequency measurement), 33-36

TOPIC TAGS: ferrite, quartz, quartz clock, quartz crystal, frequency divider

ABSTRACT: A description of transistorized ferrite frequency dividers for use in quartz clocks is presented (see Fig. 1). In addition, the ferrite hysteresis curve was determined (see Fig. 2). It was found that a  $\pm 20\%$  variation in the 100-kc input voltage caused a time uncertainty of less than 1 microsecond; a  $\pm 15\%$  variation in supply voltage caused a time uncertainty of 1.5 microseconds, and a change in ambient temperature from  $-5^{\circ}\text{C}$  to  $35^{\circ}\text{C}$  caused an uncertainty of less than 1 microsecond. It is concluded that transistorized ferrite frequency dividers may be successfully used in quartz clocks.

UDC: 621.374.4:529.786

Card 1/3

ACC NR: AT6020233

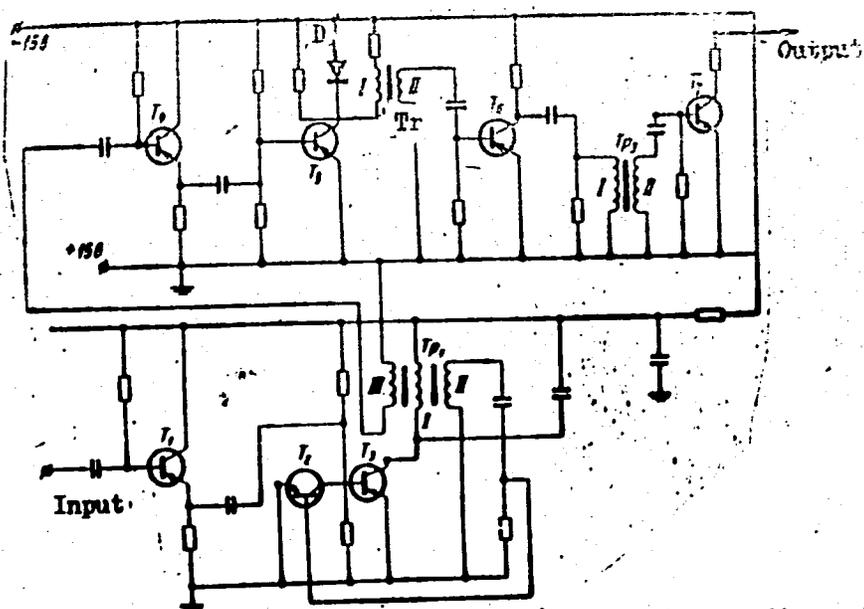


Fig. 1. Scheme for the formation of input impulses for the decadic scaler from a standard 100-kc frequency.  $D_1$  - diode;  $T_1 \dots T_7$  - triodes;  $Tr_1 \dots Tr_3$  - transformers; II, III - transistorized ferrite elements

Card 2/3

ACC NR: AT6020233

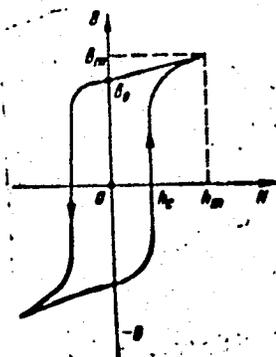


Fig. 2. Ferrite characteristic with a rectangular hysteresis loop

Orig. art. has: 3 graphs.

SUB CODE: 09, 14, 11/ SUBM DATE: --Feb62

Card 3/3

hGSL  
S/109/62/007/009/013/018  
D409/D301

9.3120  
402531  
AUTHORS: Ayukhanov, A.Kh., Vostrilova, N.V., and Shustrov, V.A.

TITLE: Evaporation of oxide-cathode components during its operation

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 9, 1962,  
1598 - 1807

TEXT: The evaporation of the components of barium-strontium oxide coatings of various composition was studied by the method of radioactive isotopes. Earlier studies of the temperature dependence of the rate of evaporation of the components were mostly of a comparative nature; the dependence of the rate of evaporation on the composition of the coating was not ascertained and the dynamics of evaporation were not studied. The method used in the present investigation made it possible to obtain quantitative results and to study the evaporation over sufficiently small time-intervals; in addition it also permitted to perform a large number of various operations with the same cathode specimen under the same vacuum conditions. The experimental lamp was continuously evacuated by two mercury  
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Evaporation of oxide-cathode ...

S/109/62/007/009/013/018  
D409/D301

diffusion pumps, connected in series. The design of the apparatus made is possible to conduct 16 measurements on a single cathode. The processes could be recorded over time intervals as short as 20 seconds. By using plug-in collectors, it was possible to keep for a long time the results of any experiment. The amount of evaporated matter was determined by measuring the loss in cathode activity and the collector activity. The amount of evaporated matter could be determined to an accuracy of  $1 \cdot 10^{-8}$  gram. The coatings had the composition  $\text{BaCO}_3 + \text{SrCO}_3$ . The rate of evaporation varied as a function of temperature and of the relative composition ( $\text{BaCO}_3$  :  $\text{SrCO}_3$  in mol. %). The temperature increase took place in two stages up to  $1000^\circ\text{K}$  and activation to  $1300^\circ\text{K}$ . An increase in  $\text{BaCO}_3$  concentration led to an increase in the fraction of evaporated barium, (from 6.5 to 16 % approximately). The relative Ba-concentration in the evaporation products reaches its maximum value for coatings which contain 60 %  $\text{SrCO}_3$ . The fraction of evaporated strontium varies non-monotonically as a function of its concentration in the

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Evaporation of oxide-cathode ...

S/109/62/007/009/013/018  
D409/D301

coating. Evaporation at increased temperatures of the activated cathode, is apparently related to the formation of a solid solution (Ba, Sr)O and the appearance (in the latter) of free Ba and Sr. The change in the rate of evaporation of Ba as a function of time, was studied over a temperature range of 1000-1500°K. A figure shows the change in rate of evaporation from coatings which contain 30 % and 100 % Ba, respectively. Another figure shows the dependence of the mean rate of non-equilibrium evaporation of Ba and Sr, on the composition of the coating. These curves are characterized by a maximum for coatings which contain 70 % of the respective carbonate. Hence the presence of the maximum is not a property of the solid solution (Ba, Sr)O, and the obtained curves are related to the behavior of the free metal in the crystalline lattice. In the process of heating the cathode, depletion of the Ba-layer sets in at a certain temperature. This leads to the paradoxical conclusion that (from a certain temperature on) the rate of evaporation slows down. It is concluded that evaporation of Ba and Sr was practically not observed during the decomposition of the carbonates. Evaporation becomes significant only during the activation process, at temperatures above 1000°K. At that stage, the evaporation is related to

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Evaporation of oxide-cathode ...

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physico-chemical changes in the oxide coating. As a result of cathode activation, the amount of evaporated Ba varies between 0.16 to 0.065 mgm. per 1 mgm. of Ba in the coating. For Sr, this amount is much smaller (0.001 to 0.06 mgm). On raising the temperature of the activated cathode, non-equilibrium evaporation of Ba and Sr takes place. A quantitative description of the depletion process of free Ba has been given. There are 9 figures and 3 tables. The most important English-language reference reads as follows: R.S. Bever, J. Appl. Phys., 1953, 24, 1008.

SUBMITTED: March 19, 1962

Card 4/4

ACCESSION NO: AP3000223

S/0166/63/000/002/0065/0069

AUTHORS: Shustrov, V. A.; Poltoratskiy, V. I.; Ayukhanov, A. Kh.

TITLE: On the role of barrier formation in the cathode sputtering process

SOURCE: AN UzSSR. Izv. Seriya fiziko-matem. nauk, no. 2, 1963, 65-69

TOPIC TAGS: continuous sputtering, tungsten target, ion source, surface ionization, negative ion

ABSTRACT: An experiment has been performed to compare qualitatively two processes: continuous sputtering of material and knocking-out target material forming a chemical compound with the adsorbed substances. The experiment was done in a  $10^{-7}$  mm Hg vacuum, using a heated tungsten target and an Na and K ion source of 1 to  $10 \mu \text{ a/cm}^2$  density. The latter was obtained by means of surface ionization over an incandescent tungsten wire. The sputtering product was accumulated on a collector made of 0.5 mm nickel plates. Experiments were done in three steps. First the tungsten target was kept cool and the sodium ion beam was turned on at 1600 ev energies with the collector potential V at zero value. Next V was set at -140 v, followed by raising the target temperature to 1160K. A graph of cathode sputtering

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ACCESSION NO: AP3000223

coefficient versus collector potential shows that the greater part of the knocked-out negative ions possesses an energy of 20 ev. For  $V \leq -140$  v the collector contains only neutral particles. Under potassium ion bombardment, a noticeable amount of negative tungsten-containing compounds is observed in the sputtering products. Orig. art. has: 4 figures and 2 formulas.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN UzSSR (Physical-Technical Institute AN UzSSR)

SUBMITTED: 08Jan63

DATE ACQ: 12Jun63

ENCL: 00

SUB CODE: PH

NO REF SOV: 006

OTHER: 004

Card 2/2

ARIFOV, U. A., akademik; AYUKHANOV, A. Kh.; SHUSTROV, V. A.; KHASANOV,  
R. M.; POLTORATSKIY, V. I.

Cathode sputtering of tungsten by potassium ions. Dokl. AN  
SSSR 155 no. 2:306-308 Mr '64. (MIRA 17:5)

1. Fiziko-tehnicheskiy institut AN UzSSSR.
2. AN UzSSSR (for Arifov)

L 59207-65 EWT(m) Feb DIAAP

ACCESSION NR: AR5017534

UR/0058/65/000/006/G011/G011

SOURCE: Ref. zh. Fizika, Abs. 6G86

AUTHORS: Shustrov, V. A.; Ayukhanov, A. Kh.

TITLE: Cathode sputtering of tungsten

CITED SOURCE: Dokl. An UzSSR, no. 10, 1964, 22-26

TOPIC TAGS: tungsten sputtering, ion bombardment, cathode sputtering

TRANSLATION: The radioactive isotope method<sup>19</sup> was used to investigate cathode sputtering of a polycrystalline tungsten target, the temperature of which was ~1800K. It is assumed that sputtering of a clean surface takes place at such a temperature. In order to prevent evaporation of the target, an instrument was constructed, which made it possible to measure simultaneously the amount  $m_1$  of the material evaporated from one side of the target, and the amount  $m_2$  of the material evaporated and sputtered during the same time from the opposite side. The amount of sputtered material was  $m = m_2 - m_1$ . The energy dependences of the coefficient  $W$  of sputtering of tungsten by ions  $Cs^+$ ,  $Rb^+$ ,  $K^+$ , and  $Li^+$  is obtained. In the energy region 300--2500 eV, these dependences are represented by straight lines. A correlation is established between the value of the coefficient of cathode sputtering and the energy received by the target from the incoming ion in two successive

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L 59207-65

ACCESSION NR: AR5017534

collisions with the lattice atoms. V. Shustrov.

SUB CODE: NP, GP

ENCL: 00

*7-6*  
Card 2/2

SHESTROV, V.A.; KHASANOV, R.M.; AYUKHANOV, A.Kh.

Cathode sputtering of tantalum and tungsten at different  
temperatures. Radiotekh. i elektron. 10 no.3:541-547 M  
1965. (MIRA 18:3)

L 36217-65 EWT(m)/EPF(n)-2/EWG(m)/EPA(w)-2/T/EMP(t)/EWP(b) Pab-10/Pu-4 LJP(c)  
 RWR/JD/JG S/0109/65/010/003/0541/0547  
 ACCESSION NR: AP5007100

AUTHOR: Shustrov, V. A.; Khasanov, R. M.; Ayukhanov, A. Kh.

TITLE: Disintegration of Ta and W cathodes at various temperatures

SOURCE: Radiotekhnika i elektronika, v, 10, no. 3, 1965, 541-547

TOPIC TAGS: cathode disintegration, tantalum cathode, tungsten cathode

ABSTRACT: Ta and W foils tagged with  $^{82}\text{Ta}$  and  $^{85}\text{W}$  were disintegrated at 300-1500K and  $10^{-6}$  torr in a specially designed device (see Enclosure 1). Nickel cylinder 1 served as a receiver of the disintegrated material; the cylinder consisted of 12 equal "collectors" 50mm long and 15.7 mm (arc) wide. A 5-mm hole 3 in the center of each collector was intended as an entrance for the ion beam. Target 9 was located axially. Diaphragm 2 had two cuts 4. Between the last electrode of electron lens 5 and cylinder 1, a guard plate 6 with a 2-mm hole prevented the ions from hitting the collector directly. Plots of the coefficient of cathode disintegration vs. temperature and energy (200-1200ev) are presented; the disintegration was effected by K, Li, and Na ions. It was found that: (1) The disintegration of a clean metal surface is

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13

L 36217-65

ACCESSION NR: AP5007100

is possible at temperatures exceeding a certain value definite for a given ion-metal pair; (2) The coefficient of disintegration of a clean surface does not depend on the target temperature up to 2000K. Orig. art. has: 6 figures.

ASSOCIATION: none

SUBMITTED: 03Feb64

ENCL: 01

SUB CODE: EC

NO REF SOV: 004

OTHER: 002

Card 2/3

USSR / Cultivated Plants. Plants for Technical Use. M  
 Oil Plants. Sugar Plants.

Abs Jour : Ref Zhur - Biologiya, No 6, 1959, No. 25012

Author : Shustrov, V. S.  
 Inst : Voronezh Agricultural Institute  
 Title : Effectiveness of the Recent Methods in the  
 Cultivation of Makhorka [an inferior brand  
 of tobacco] Under the Conditions of the  
 Central Chernozem Belt

Orig Pub : Zap. Voronezhsk. s.-kh. in-ta, 1957, 27, No 2,  
 253-259

Abstract : The biennial results of investigations,  
 conducted by the Voronezh Agricultural  
 Institute, on the effectiveness of the square  
 and the square-nest disposition of makhorka  
 seedlings at various backgrounds of nutrition.

Card 1/3

USSR / Cultivated Plants. Plants for Technical Use. M  
 Oil Plants. Sugar Plants.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550310012-3"

Abs Jour : Ref Zhur - Biologiya, No 6, 1959, No. 25012

Experiments, conducted by the October Makhorka  
 State Farm of Lepetskaya Oblast', indicated  
 that by allocating two makhorka plants into  
 a nest at a distance of 5-10 cm or into one  
 spot, their growth and development proceed  
 in a completely similar manner. By increasing  
 the distance between these two plants from  
 10 to 20 cm, better conditions for growth are  
 created. A certain inhibition in the plant's  
 growth and development is observed at the  
 allocation of makhorka at the rate of 3-4  
 plants per nest. The largest harvest was  
 obtained at the greatest density of the  
 plants' stand. The quantity of the raw  
 material at the square and square-nest method

Card 2/3

142

Card 3/3

SHMSTROV, V. S., Cand Agric Sci (diss) -- "The effectiveness of new methods  
of cultivating tobacco under the conditions of the central chernozem belt".  
Voronezh, 1960. 20 pp (Min Agric RSFSR, Voronezh Agric Inst), 150 copies  
(KL, No 14, 1960, 135)

Usatova, N.N. and Musirov, A.V. "The chemical cleaning of potatoes and root vegetables," Sbornik nauch. rabot nauch.-issled. in-t karkovli i o shchestv. pitaniya, Moscow, 1949 p. 43-47

CC: U-5241, 17 December 1953, (Detopia 'zhurnal 'nykh Statey No. 26, 1949).

... ..  
Vestnik, P.K. and Lusinyan, A.V. "Methods of potato blanching  
for drying," Sbornik nauch. rabot (Nauch.-issled. in-t torgovli  
i obshchestv. pitanija), Moscow, 1949, p. 48-62

SC: W-1241, 17 December 1953 (Letopis 'zhurnal 'nykh Statey No. 26, 1949).

Shustrov, V. I.

"The study of the effect of Prof. I. I. Zbarskiy's bactericide on the storageability of tangerines," Sbornik nauch. rabot (Nauch.-issled. in-t trgovli i obshchestv. pitaniya), Moscow, 1949, p. 144-50

SO: M-5241, 17 December 1953, (Iepetis 'zhurnal 'nykh Statey, No. 26, 1949).

USATYUK, Maksim Kliment'yevich; SHUSTROV, Vasilii Viktorovich; SIMEL'NI-  
KOVA, TS.B., redaktor; MEDRISH, D.M., tekhnicheskiy redaktor

[Storage and processing watermelons, melons, and pumpkins] Khrane-  
nie i pererabotka arbuzov, dyn' i tykvy. Moskva, Gos. izd-vo torg.  
lit-ry, 1956. 121 p. (MIRA 10:4)  
(Vine crops) (Canning and preserving)

ANTONOV, M.V., kand.tekhn.nauk, starshiy nauchnyy sotrudnik; USATYUK,  
M.K., kand.tekhn.nauk, starshiy nauchnyy sotrudnik; SHUSTROV,  
V.V., kand.tekhn.nauk, starshiy nauchnyy sotrudnik [deceased];  
TSIPERSON, A.L., red.; SUDAK, D.M., tekhn.red.

[Collection of recipes and technical instructions for the  
processing of fruits and vegetables] Sbornik retseptur i  
tehnologicheskikh ukazanii po pererabotke plodov i ovoshchi.  
Izd.4, dop. i perer. Moskva, Gos.isd-vo torg.lit-ry. 1959.  
207 p. (MIRA 13:5)

1. Moscow. Nauchno-issledovatel'skiy institut torgovli i ob-  
shchestvennogo pitaniya. 2. Nauchno-issledovatel'skiy institut  
torgovli i obshchestvennogo pitaniya Ministerstva torgovli SSSR  
(for Antonov, Usatyuk, Shustrov).  
(Fruit) (Vegetables)

KOCHETKOV, V.S.; SHUSTROVA, A.Ya.; SIVASH, K.M.

Electrotrepine for otorhinolaryngological surgery. Med.prom.  
13 no.7:59-60 J1 '59. (MIRA 12:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut eksperimental'-  
noy khirurgicheskoy apparatury i instrumentov.  
(OTORHINOLARYNGOLOGY)

AGROSKIN, S. I., kand. med. nauk, zaslužennyy vrach RSFSR; BYKOVA, G. P.,  
starshiy inzhener; SHUSTROVA, A. Ya., inzhener

New laryngological instruments for children. Vest. otorin. no.2:  
87-88 '62. (MIRA 15:2)

1. Iz detskoy klinicheskoy bol'nitsy No. 1 i iz Nauchno-issledovatel'  
skogo instituta eksperimental'noy khirurgicheskoy apparatury i  
instrumentov, Moskva.

(LARYNGOSCOPE AND LARYNGOSCOPY)

SHCHERBA, I.Ye.; TSEKHAYA, A.A.; FERMAN, E.Z.; SHEVYGIN, V.Ya.

Isolation of tumorigenic agents from laryngeal papillomas and polyps of the large intestine in man. Top. onk. 11 no.2:90 '65.

(MIRA 18:7)

1. Iz otdela immunologii i onkologii (zav. - deystvitel'nyy chlen ANM SSSR prof. L.A. Zil'ber) Instituta epidemiologii i mikrobiologii imeni N.F. Gamalei ANM SSSR (direktor - prof. F.A. Vershilova); ushnogo otdeleniya (zav. - dotsent F.F. Molomuzh) detskoy bol'nitsy Nr.9 imeni F.E. Dzerzhinskogo (glavnyy vrach A.N. Kudryashova) i proktologicheskogo otdeleniya (zav. - prof. A.N. Fyzhikh) Gosudarstvennogo nauchno-issledovatel'skogo onkologicheskogo instituta imeni P.A. Gertsena (direktor: prof. A.N. Novikov).

... ..  
... .. of the human military  
... .. 1955.

(KIRA 12:3)

... .. (prof. ... ..  
... .. epidemiological  
... .. prof. E.S. Varchilova).

SHUSTROVA, I. Ye. Cand Med Sci -- (diss) "Experimental data <sup>on</sup> the study of  
certain human polyps and papillomas." Mos, 1959. 14 pp (Acad Med Sci USSR.  
Inst of Epidemiology and Microbiology im N. F. Gamaleya), 200 copies (KL, 44-59, 130)

SHUSTROVA, N. M.

SHUSTROVA, N. M. -- "On the Permeability of the Vascular Walls in Certain Diseases of the Blood System." (Dissertation for the Degree of Candidate in Medical Sciences).

So.: Knizhnaya Letopis', No. 8, 1956.

KOLDOBSKIY, A.G.; MEDVEDEV, S.I.; PISKOPPEL', F.G.; YAKOBSON, M.G. Primali uchastiye: BERKHIN, I.B.; OSLIKOVSKAYA, Ye.S.; PEREKISLOVA, A.M.; LITVIN, V.M.; PARKHOMENKO, Ye.V.; STOTIK, A.M.; SHAPIRO, T.I.; STRUMILIN, S.G., akad., glav. red.; ALEKSENKO, G.V., red.; ANISIMOV, N.I., red.; VOLODARSKIY, L.M., red.; GERSHBERG, S.R., redaktor; red.; PETROV, A.I., red.; POSVIANSKIY, S.S., red.; HAZAROVA, G.V., kand. ekonom. nauk, starshiy nauchnyy red.; KISEL'MAN, S.M., starshiy nauchnyy red.; LIVANSKAYA, F.V., kand. ekonom. nauk, starshiy nauchnyy red.; GLAGOLEV, V.S., nauchnyy red.; NEDBAYEV, V.I., nauchnyy red.; TUMANOVA, N.L., nauchnyy red.; TOVMASYAN, M.E., red.; BLAGODARSKAYA, Ye.V., mladshiy red.; SHUSTROVA, V.M., mladshiy red.; ZENTSEL'SKAYA, Ch.A., tekhn. red.

[The economic life of the U.S.S.R.; chronicle of events and facts, 1917-1959] Ekonomicheskaya zhizn' SSSR; khronika sobytii i faktov 1917-1959. Glav. red. S.G.Strumilin. Chleny red. kollegii: AlekSENKO i dr. Moskva, Gos. nauchn.izd-vo "Sovetskaya entsiklopediya," 1961. (MIRA 14:10)  
779 p.

1. Tsentral'naya nauchnaya sel'skokhozyaystvennaya biblioteka Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. Lenina (for Litvin, Parkhomenko, STOTIK, Shapiro).  
(Russia—Economic conditions)

YEFIMOV, A.H., glav. red.; BACHURIN, A.V., red.; VOLODARSKIY, L.M., red.; GERSHBERG, S.R., red.; GINZBURG, S.Z., red.; DUNDUKOV, G.F., red.; KIRZHNER, D.M., red.; KLIMENKO, K.I., red.; KOMAROV, F.V., red.; KOROL'KOV, A.N., red.; KYLOV, P.N., red.; LIVANSKAYA, F.V., red.; LOKSHIN, E.Yu., red.; OSTROVITYANOV, K.V., red.; POSVYAN'SKIY, S.S., red.; PUDENSKIY, G.A., red.; RAZUMOV, N.A., red.; RUMYANTSEV, A.F., red.; TATUR, S.K., red.; SHUKHIGAL'TER, L.Ya., red.; BAZAROVA, G.V., starshiy nauchnyy red., kand. ekon. nauk; KISEL'MAN, S.M., starshiy nauchnyy red.; GLAGOLEV, V.S., nauchnyy red.; TUMANOVA, N.L., nauchnyy red.; BLAGODARSKAYA, Ye.V., mlad. red.; SHUSTROVA, V.M., mladshiy red.; GAYDUKOV, Yu.A., kand. ekon. nauk, red.; ZBARSKIY, M.I., red.; LOZOVY, Ya.D., red.; SERGEYEV, A.V., dots., red.; KHEYFETS, L.M., kand. tekhn. nauk, red.; LYUBOVICH, Yu.O., kand. ekon. nauk, red.; SYSOYEV, P.V., red.; KOSTI, S.D., tekhn. red.

[Economic encyclopedia; industry and construction] Ekonomicheskaia entsiklopediia; promyshlennost' i stroitel'stvo.  
Chleny red. kollegii: A.V. Bachurin i dr. Moskva, Gos. nauchn. izd-vo "Sovetskaia entsiklopediia." Vol. 1. A - h. 1962.  
951 p. (MIRA 15:10)

(Russia--Industries--Dictionaries)  
(Construction industry--Dictionaries)

SHUSTRUYSKAYA, L.N.

Disorders in higher nervous activity and control of these  
disorders in mental fatigue in school children. Vest. AMN SSSR  
18 no.2:28-33 '63. (MIRA 17:5)

1. Iz akademicheskoy gruppy deystvitel'nogo chlena AMN SSSR prof.  
G.N. Speranskogo, Moskva.

SOV/124-57-9-11048

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 9, p 163 (USSR)

AUTHOR: Shut, I. V.

TITLE: Determination of Maximum Stress in the Body of a Screw Loaded as in a Press (With Axial Loads and Moments on the Threads and the Butt End) [Opredeleniye maksimal'nogo napryazheniya v tele vinta, nagruzhennogo po skheme pressa (pri nalichii osevoy nagruzki i momentov na vitkakh i tortse vinta)]

PERIODICAL: Sb. stud. nauchn. rabot. Belorussk, politekhn. in-t, 1957, Nr 3, pp 54-56

ABSTRACT: Bibliographic entry

Card 1/1

SHUT', V.V., inzh.

Repairing turboexciter collectors in electric power stations.  
Elek.sta. 28 no.10:85-87 '57. (MIRA 10:11)  
(Turbines)

VABEL', V.D.; SHUT', V.V., inzh.

Selective switching of lines connected to a single circuit breaker.  
Elek. sta. 29 no. 4:87-89 Ap '58. (MIRA 11:8)  
(Electric lines) (Electric circuit breakers)

SHUT', V.V., inzh

Part-phase operation of a three-phase transformer in a network with  
an insulated neutral. Elek.sta. 29 no.9:32-34 '58.  
(Electric transformers) (MIRA 11:11)

SHUT', V.V., dotsent (Odessa)

Selective system for signaling short-circuits to ground.  
Elektrichestvo no.10:68-71 0 '61. (MIRA 14:10)  
(Electric power distribution)  
(Electric protection)

SOMOV, Vladimir Aleksandrovich, kand.tekhn.nauk, dotsent; SHUT', Vsevolod  
Vasil'yevich; BOBRIKOV, Sergey Aleksandrovich, assistant

Possible operation of a saturable reactor without distortion of  
the shape of the curve of the regulated current. Izv. vys. uch.  
zav.; elektromekh. 5 no.8:860-865 '62. (MIRA 15:8)

1. Odesskiy politekhnicheskii institut (for Somov). 2. Glavnyy  
inzhener "Odessaenergo" Odesskogo sovnarkhoza (for Shut').
3. Kafedra avtomatiki i telemekhaniki Odesskogo politekhnicheskogo  
instituta (for Bobrikov).

(Magnetic amplifiers)

SHUT', V.V. (Odessa)

Device for distinguishing and memorizing the sign of the first half-cycle of a sign alternating process. Avtom. i telem. 23 no.6:844-846 Je '62. (MIRA 15:6)

(Electric protection) (Automatic control)

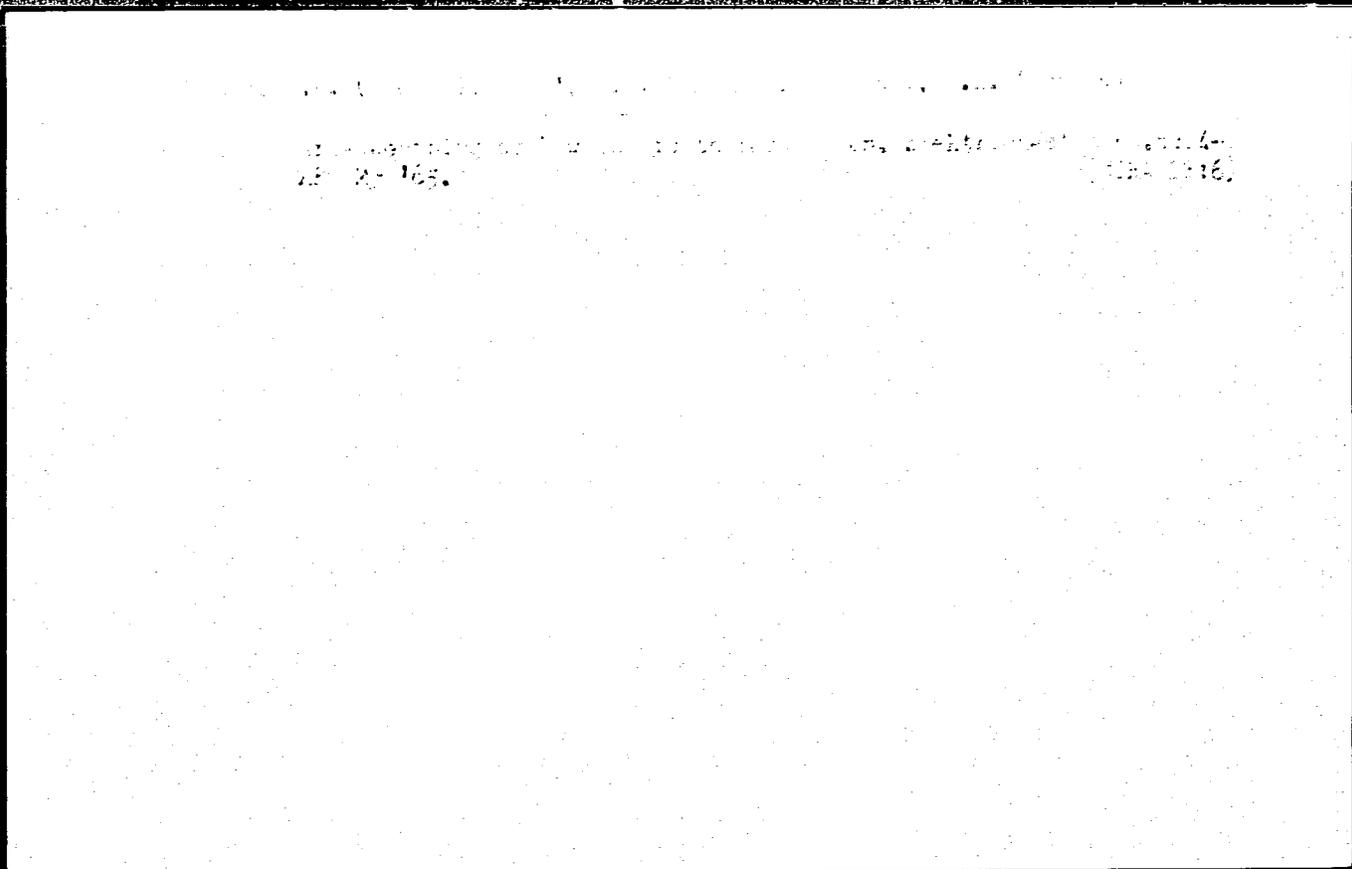
(Electric power distribution--Electric equipment)

SHUT', V.V., inzh.

Prevention of ice crust formation on overhead power transmission lines. Elek. sta. 35 no.11:21-23 N '64. (MIRA 18:1)

SOMOV, V.A., inzh.; SHUT', V.V., inzh.; BOBRIKOV, S.A., inzh.

Regulation of the inductance of arc-quenching coils using a  
transformer with bias and a saturable reactor. Elek. sta. 35  
no.11:46-49 N '64. (MIRA 18:1)



RUBININ / General and Special Zoology. Insects. Harm- P  
ful Insects and Mites. Fruit and Berry Crop  
Pests.

Abs Jour: Ref Zhur-Biol., No 1, 1959, 2328.

Author : Shuta, V.  
Inst : Not given.  
Title : Control of May Beetle Larvae in Fruit Nurseries.

Orig Pub: Gradina, via si livada, 1958, 7, No 3, 42-47.

Abstract: Various insecticides in various doses were applied into the ground. The largest number of well developed shoots was obtained when 150 kg/ha of 1.5%  $\gamma$ -hexachlorocyclohexane was placed simultaneously with fertilizers into the soil.

Card 1/1

54

RUMANIA / General and Special Zoology. Insects. P  
Harmful Insects and Mites. Fruit and  
Berry Crop Pests.

Abstr Jour: Ref Zhur-Biol., No 1, 1959, 2342.

Author : ~~Shuta, V.~~

Inst : Not given.

Title : Control of the Plum Pest *Hoplocampa fulvi-*  
*cornis*.

Orig Pub: Gradina, via si livada, 1958, 7, No 4, 53-57.

Abstract: No abstract.

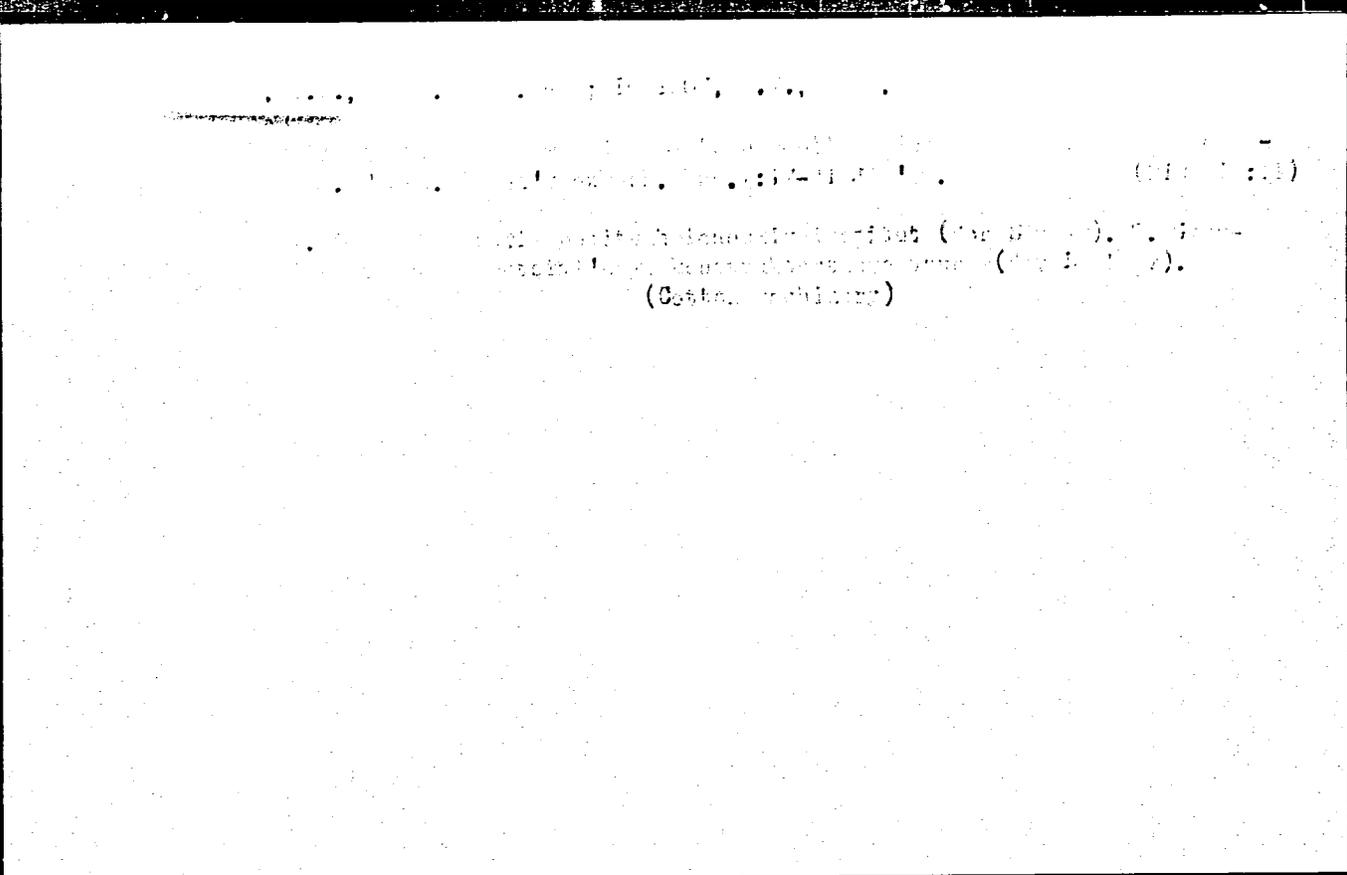
Card 1/1

47

SHUTAK, S. L.

Shutak, S. L. -- "The Question of Raising the Working Capacity of the Spindles of Cotton Harvesting Machines." Min Higher Education, Tashkent Inst of Engineers of the Irrigation and Mechanization of Agriculture, Tashkent, 1955 (Dissertation for the Degree of Candidate in Technical Sciences)

SO: Knizhnaya Letopis', No. 23, Moscow, Jun 55, pp 87-104



L 22480-66 EWT(d)/EWP(c)/EWP(v)/T/EWP(k)/EWP(l)/ETC(m)-6 IJP(c)

ACC NR: AP6007934

(A)

SOURCE CODE: UR/0065/66/000/003/0057/0058

AUTHOR: Sokolov, A. I.; Shutalev, B. I.; Kel'dyushev, F. A. (Deceased)

39  
B

ORG: none

TITLE: The effect of the quality of oil<sup>14</sup> on the life of an internal combustion engine

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 3, 1966, 57-58

TOPIC TAGS: lubricant property, lubricant, internal combustion engine component

ABSTRACT: The authors note the absence of uniform criteria for assessing the point at which crankcase oil should be changed in internal combustion engines. At present, motor pools set their own criteria for oil changes. It is proposed that a central scientific research institute be set up for engine lubricant problems. It is concluded that there is a lack of communication between engine operators and those who analyze the quality of crankcase oil.

SUB CODE: 21/

SUBM DATE: 00/

ORIG REF: 002/

OTH REF: 000

UDC: 665.521.5

Card

1/1 BK

MOROZENKO, M.A.; SHUTAYA, S.Z.

Influenza C in children during the period of the influenza A<sub>1</sub>  
outbreak in Leningrad. Trudy Len.inst.epid.i mikrobiol. 17:56-  
65 '58. (MIRA 1632)

1. Iz otdela virusologii (zav. chlen-korrespondent AMN SSSR prof.  
A.A. Smorodintsev) Instituta eksperimental'noy meditsiny AMN SSSR  
i detskoy bol'nitsy imeni Filatova (glavnyy vrach Z.A. Saval'yeva).  
(LENINGRAD--INFLUENZA)

Shouten, I.A.

Shouten, I. A. [Schouten, I. A.], and Strolk, D. D.  
[Struk, D. I.]. Vvedenie v novye metody differentsialnoi geometrii. II. Geometriya. [Introduction to Recent Methods of Differential Geometry. II. Geometry.] Gosudarstv. Izdat. Inostr. Lit., Moscow, 1948. 348 pp.

This is a Russian translation of vol. 2 of "Einführung in die neueren Methoden der Differentialgeometrie" [Noordhoff, Groningen, 1938]. The bibliography is enriched with titles of Russian publications and brought up to 1948. A preface is added in which the translators refer to the contributions of the "first period of activity of the Soviet tensor school of B. F. Kagan," notably the work of Sirokov, Vagner, Norden, and Raševskii. D. J. Struik.

Source: Mathematical Reviews, Vol. 12, No. 2.

*Struik*

GLUBISH, P.A.; VODYANYUK, S.O., ispolnyayushchiy obyazannosti starshego nauchnogo sotrudnika; SHUTENKO, G.F., inzh.-tekhnolog; KULIKOV, A.I.

Use of acrylamide for warp sizing. Tekst. prom. 25 no.5:  
37-40 My '65. (MIRA 18:5)

1. Zavedyushchiy sektorom Ukrainskogo nauchno-issledovatel'skogo instituta tekstil'noy promyshlennosti (for Glubish).
2. Glavnyy inzh. Zhitomirskogo l'nokombinata (for Kulikov).

KARAYEROV, Panteleymon Georgiyevich, SHUTENKO, Ivan Antonovich,  
~~glavnyy mashiny sotr.~~; TETYUREVA, I.V., red.; GUREVICH,  
M.M., tekhn. red.

[Method for growing sugar beet seeds without transplantation]  
Bezvysadochnyi sposob vyrashchivaniia semian sakharnoi svekly.  
Moskva, Sel'khozizdat, 1962. 62 p. (MIRA 15:10)

1. Glavnyy agronom, ~~sel'khozizdat~~ Tavolubanskogo rayona  
(for Karayerov).

(Krasnodar Territory—Sugar beets)  
(Krasnodar Territory—Seed production)

L 05263-67 EWT(1)

ACC NR:AM6014904

Monograph

UR/

Shutenko, Mikhail Semenovich

47  
B+1

Low-noise superhigh frequency amplifiers (Maloshumyashchiye usiliteli SVCh) Moscow, Voenizdat M-va obor. SSSR, 1966. 150 p. illus., biblio. 11,000 copies printed.

TOPIC TAGS: VHF amplifier, parametric amplifier, molecular amplifier, traveling wave amplifier, tunnel diode, low noise amplifier

PURPOSE AND COVERAGE: This book is intended for technical personnel of average education concerned with the operation and maintenance of electronic equipment. It may also be useful to a wide circle of readers taking interest in veryhigh-frequency technique. The physical foundations and operating principle of low-noise vhf amplifiers are explained. The design of these amplifiers, as a product of the newest achievements in physics and electronics, is described and the prospects for their use in the receiving systems of military equipment, in modern means of communication, in radio astronomy, etc., are discussed. There are 8 references: 6 Soviet and 2 English.

UDC: 621.375.029.64.001

Card 1/4

ACC NR: AM6014904

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AVAILABLE: Library of Congress

SUB CODE: 09/ SUBM DATE: 23Feb65/ ORIG REF: 007/ OTH REF: 002

Card 4/4 *egb*

SHUTENKO, N.

SHUTENKO, N. (Kiyev)

Imitation finishes for furniture. Prom.koop. no.2:29 (MLRA 10:5)  
F '57.

1. Starshiy inzhener oddela mebel'noy promyshlennosti Ukrpromsoвета.  
(Wood finishing)

DUBININ, V., mekhanizator; PUZEY, Ye., mekhanizator; FAUSTOV, N., mekhanizator;  
SHUTENKO, N., mekhanizator; KOGAY, K. mekhanizator; ISABEKOV, I.,  
mekhanizator.

Doing more today means having more tomorrow. Sov. profsoiuzy 18 no.  
11:13-14 Je '62. (MIRA 15:6)

1. Sovkhoz "Cheklarskiy", Tselinnogo kraya (for Dubinin). 2. Sovkhoz  
"Minskiy" Tselinnogo kraya (for Puzey). 3. Sovkhoz "Khar'kovskiy"  
Tselinnogo kraya (for Faustov). 4. Sovkhoz "Smirnovskiy"  
Tselinnogo kraya (for Shutenko). 5. Sovkhoz "Bozaygirskiy" Tselinnogo  
kraya (for Kogay, Isabekov).  
(Virgin Territory--Tractors--Repairing) (Socialist competition)

SHUTENKO, N.I.

Republic fair for the purchase of furniture in 1963-1964. Bum. i der.  
prom. no.2:54 Ap-Je '63. (MIRA 17:2)

KORENEV, V.F.; SHUTENKO, N.I.

In the State Committee of the Council of Ministers of the Ukrainian S.S.R. on the coordination of research work. Bum. 1 der.  
prom. no.3:59 J1-S '63. (MIRA 17:2)

SHUTENKO, N.I.

Sets of furniture for single-family apartments. Bum. i der. prom.  
no.3:28-30 J1-S '64. (MIRA 17:11)

SHUTENKO, N.I.

All-Union scientific research conference on the production of  
upholstered furniture. Bum. i der. prom. no. 4348-49 O-D '64  
(MIRA 18:2)

SHUTENKO, N.I.

School-seminars at the enterprises of the Kiev Economic Council.  
Bum. i der. prom. no. 1340 Ja-Mr '64. (MIRA 17:6)

SHUTENKO, N.I.

New sets of furniture. Bum. 1 der. prom. no.2:22-24 Ap-Je '65.  
(MIRA 18:6)

SHUTENKO, T. F.

Dec 48

USSR/Engineering  
Refractories  
Furnaces

"Utilization of Waste Heat From Hoffman Furnaces for Drying Fire Clay Articles at the Nizhne-Tagil Refractory Factory," D. I. Gavrish, T. F. Shutenko, F. G. Valenburger, Engineers, 3 pp

"Ogneupory" No 12

In 1945, the two burner Hoffman furnace at subject plant was converted from solid fuel to gas. Describes system developed to use waste hot air. Furnace services two dryers which have temperatures of 110 to 120°. Articles are admitted with an 8 to 9% humidity and emerge with not more than 3% humidity.

61/49T29

SHUTENKO, T.F.

Automatic temperature control in drier drums. Ogneupory 18  
no.10:471-475 '53. (MIRA 11:10)

1. Nishe-Fagil'skiy savod. (Automatic control)  
(Drying apparatus)

SHUTENKO, T.F.

Automatic low gas pressure signalization in furnace gas conduits and  
driers. Ogneupory 20 no.5:234-235 '55. (MIRA 8:11)

1. Nizhne-Tagil'skiy zavod  
(Gas governors)

SKORIK, N.S., inzh.; SHUTENKO, T.F., tekhnik

Automatic control of thermal conditions in runner brick drying in  
tunnel kilns. Mekh.i avtom.proizv. 14 no.12:9-11 D '60.

(MIRA 13:12)

(Fire bricks--Drying)

(Automatic control)

TURCHANINOV, V.S.; VALENBURGER, F.G.; SKCRIK, N.S.; SHUTENKO, T.F.

Automation of the system of drying runner articles in a tunnel  
drier. Ogneupory 26 no.5:225-230 '61. (MIRA 14:6)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.  
(Kilns)  
(Refractory materials)

SHUTENKO, T. S.: Master Med Sci (diss) -- "Delayed results of treating malignant tumors of the organ of vision, based on data from the eye clinic of the Tomsk Medical Institute". Tomsk, 1958. 17 pp (Min Health USSR, Tomsk Med Inst), 200 copies (KL, No 6, 1959, 147)

SHUTENKO, T.S.

Late results of the treatment of malignant tumors of the eye; from data of the Tomsk Medical Institute. Sov. med. 22 no.12:65-69 D '58. (MIRA 12:1)

1. Iz glasnoy kliniki (sav. - prof. A.G. Svatikova) Tomskogo meditsinskogo instituta (dir. - prof. S. P. Khodkevich).

(EYE, neoplasms

ther., remote results (Rus))

KHARIN, N.N.; SHUTENKO, V.N.; MUSHENKO, V.G.

Characteristics of the zooplankton and zoobenthos of ponds in  
Rostov Province. Trudy probl. i tem. soveshch. no.2:130-137  
'54. (MIRA 8:5)

(Rostov Province--Fresh-water fauna)

(Rostov Province--Ponds)

SHUTENKOV, T. S.

"The Development of the Cycle of Operations in Enterprises of the  
Krasnouralsk Copper Ore Trust", Tsvet. Met. 14, No 3, March 1939.

Report U-1506, 4 Oct. 1951.

ZHURAVLEV, S.P.; TARAN, N.N.; MALAKHOV, G.M.; MEDIN, V.V.; KUDRYASHOV, K.V.;  
ZHUKOV, M.N.; KADYRBAYEV, R.A.; SHOSTAK, A.G.; RIMSKIY, V.S.; KOSTYUK, A.M.;  
ARSENT'YEV, A.I.; SHUTENKOV, T.S.; SERYAKOV, G.V.

"Mining ore deposits." M.I. Agoshkov. Reviewed by S.P. Zhuravlev and  
others. Gor.zhur. no.7:63-64 JI '55. (MLRA 8:8)  
(Mines and mineral resources) (Agoshkov, M.I.)

PHASE I BOOK EXPLOITATION

428

Shutenkov, Tikhon Sergeyevich

Marksheyderskoye delo (Mine Surveying) Khar'kov, Metallurgizdat, 1957. 299 P.  
7,500 copies printed,

Resp. Ed.: Iishutin, B. G.; Eds. of Publishing House: Liberman, S. S.,  
Sinyavskaya, Ye. K.; Tech. Ed.: Andreyev, S. P.

PURPOSE: This is a college textbook on underground surveying for students of  
mining tekhnikums.

COVERAGE: The book surveys the theory and practice of underground surveying.  
Particular attention is paid to tie-ins of survey data to cross-cutting  
operations and also to ground displacements resulting from mining. The book  
points out Soviet advances in geodetic methods and instruments. The following  
instruments accompanied by photographs or diagrams are described: mining  
transits (e.g., the TG-1 and MGT-30, made by the Khar'kov Surveying Instrument  
Plant, and the "Geofizika" type), hanging transit (the "v" type), the OT-10  
transit, the DK-1 transit, the DKM-1 transit, self-centering devices,

Card 1/7

## Mine Surveying

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hanging compass, the NG dumpy level, the NP level, optical projector, mirror compass, gyroscopes (among them the M-2 type, designed by V.I. Lavrov at the VNIMI (All-Union Scientific Research Institute in Underground Surveying), the UN-10 goniometer, a phototheodolite designed by F.V. Drobyshev, etc. The following Soviet scientists are mentioned: I.M. Bakhurin, D.N. Ogloblin, T.G. Nesterenko. There are 24 Soviet references, 161 figures, and 24 tables.

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Card 2/7

Shuter, L.

New tannin for white leather. Ya. P. Berkman, L. Shuter, and M. Ya. Rabinovich. *Legkaya Prom.* 14, No. 7, 28-8(1954).—The new tannin "sulfone white" is made as follows: (1) prep. bis(4-hydroxyphenyl) sulfone (I) by heating phenol and  $H_2SO_4$  at elevated temp., (2) crystallize I from aq. soln., (3) condense I with HCHO, and (4) condense the sulfone resin with HCHO and  $Na_2SO_3$ . Chem. characteristics of the tannin are similar to phenol syntans; it tans in acid medium, and approaches vegetable tannins in firming and filling capacity. It can be used in combination with other types of tannins. B. Z. Kamich

SHUTER, L. M.

Distr: 4E4j/4E2e(j)

<sup>21</sup>  
<sup>7</sup>  
 ✓ Determination of hydroxyl groups in phenolic alcohols and phenol aldehyde resins / L. M. Shuter and Ya. P. Berkman (Polytech. Inst., Lvov). *Ukrain. Khim. Zhur.* 23, 669-74 (1957) (in Russian).—Weigh a 0.0005-g. equiv. sample in a flask, add 10-12 drops  $Ac_2O$ , reweigh the flask, and add 18-20 drops  $CH_3N$ . After 24 hrs., add, at 70-80°, 2-3 ml.  $CO_2$ -free water and enough  $Me_2CO$  to bring all into soln.; ppt. the ester, by a rapid jet of 10-20 ml. water and titrate the  $HOAc$  with 0.1N  $NaOH$ . Run parallel detn. of the  $NaOH$  consumed by the  $Ac_2O$ . Calc. the total amt. of phenolic and alc.  $OH$  groups from the difference. Det. phenolic  $OH$  groups by mixing a 0.0005-g. equiv. sample with 10-12 ml. 0.1N  $NaOH$ , 5-6 ml.  $Me_2CO$ , and 5 ml. 5%  $m-O_2NC_6H_4SO_3Cl$  (I) in  $Me_2CO$ . After 5 min., add enough addnl. 0.1N  $NaOH$  to completely hydrolyze the I, and, after 20-30 min. titrate the excess with 0.1N acid. Run a parallel detn. of the amt. of base to completely hydrolyze 5 ml. I; the difference is a measure of the phenolic  $OH$  groups.

6  
2  
2  
MAY

John Howe Scott

PM John

1/1

General, V.V. Methoden der Physik "Methoden der Physik" 1950.  
"Methoden der Physik" 1950.  
"Methoden der Physik" 1950.  
(1, 1950)

AUTHOR: Shuter, L.M. SOV-21-58-4-11/29

TITLE: On the Mechanism of Condensation of 4,4'-Dihydroxydiphenylsulphone with Formaldehyde ( O mekhanizme kondensatsii 4,4'-dioksidifenilsul'fona s formal'degidom )

PERIODICAL: Dopovidi Akademii nauk Ukrain's'koi RSR, 1958, Nr 4, pp 402-406 (USSR)

ABSTRACT: Products of condensation of dihydroxydiphenylsulphone with formaldehyde are used for obtaining synthetic tanning agents, artificial resins, dyes, emulsifying substances, cation-exchange resins, etc. However, the mechanism of reaction of condensation has not as yet been clarified. The author studied experimentally this reaction and obtained the following results. 4,4'-dihydroxy-3-hydroxymethyldiphenylsulphone was isolated from a mixture of alkaline dihydroxydiphenylsulphone solution and formaldehyde, which was allowed to stand three months with a yield of 10%. Its derivatives were obtained: 4,4'-dimethoxy-3-methoxymethyldiphenylsulphone (melting point 121°C) and 4,4'-diacetoxy-3-acetoxymethyldiphenylsulphone (melting point 131°C). By oxidation of the oxymethyl derivative by means of  $\text{KMnO}_4$  in alkaline medium, 4,4'-dihydroxydiphenylsulphone-3-carbonic

Card 1/2

SOV-21-58-4-11/29  
On the Mechanism of Condensation of 4,4'-Dihydroxydiphenylsulphone with Formaldehyde

acid was obtained (melting point 231°C). It was found that Okon and Urbanski [Ref. 2] mistook the substance of 294 to 300°C melting point for 4,4'-dihydroxy-3-carboxydiphenylsulphone and the substance, which the author determined as 4,4'-dihydroxy-3-hydroxymethyldiphenylsulphone, for salicylic acid. On heating the methylol derivative with a large excess of dihydroxydiphenylsulphone an amorphous substance of the dihydroxydiphenylmethane type was obtained. There is 1 table and 7 references, 3 of which are Soviet, 1 Polish, 1 Austrian, 1 English and 1 German.

ASSOCIATION:

L'vovskiy politekhnicheskiiy institut (L'vov Polytechnic Institute)

PRESENTED:

By Member of the AS UkrSSR, A.I. Kiprianov

SUBMITTED:

June 17, 1957

NOTE:

Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration.

1. Dihydroxydiphenylsulphone--Chemical reactions
2. Dihydroxydiphenylsulphone--Applications
3. Condensation reactions--Analysis
4. Formaldehyde--Applications

Card 2/2

AUTHORS: Shuter, L. M., Gordinskiy, B. Yu.

75-1-26/26

TITLE: A Distillation Method for the Determination of Molecular Weights of Organic Compounds (Distillyatsionnyy sposob opredeleniya molekulyarnogo vesa organicheskikh soyedineniy)

PERIODICAL: Zhurnal Analiticheskoy Khimii, 1958, Vol 13, Nr 1  
nn 150-152 (USSR)

ABSTRACT: In distillation methods for the determination of the molecular weight the solutions of a small weighed portion of the substance to be investigated and of a reference substance in the same solvent are stored together with a pure solvent in a vacuum until the entire solvent is evaporated and an equilibrium is established. As the vapor pressure of the solutions is less than the vapor pressure of the pure solvent, the latter in the course of time completely evaporates, whereas the solutions are diluted by condensation of the vapor of the solvent. This goes on until the vapor pressure of the solutions is completely equal. When the equilibrium is established in the system, the solutions have the same molar concentration. The molecular

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weight of the substance to be investigated can be calculated from the quantity of the solvent in the equimolar solutions and from the known molecular weight of the reference substance. On this principle various authors worked out determination methods (refs. 1-4) which were later simplified and improved (refs. 5-7). In the present article the authors further worked out the method according to Childs (ref. 5). When the molecular weight of several substances shall be determined this method proves to be lengthy. Therefore a method was developed which permits the simultaneous determination of the molecular weight of some weighed portions. Instead of a measurement of the volumes of the equimolar solutions, which requires a very complicated apparatus, the authors weighed the equimolecular solutions in equilibrium. For this purpose a special container was designed. This glass container has a wide opening which can be closed by a glass ground-in-stopper which containing a gas delivery tube with a tap. In this container 7-8 small sample vessels find room which can be dosed with ground-in-stoppers. The weighed portions of the samples are between 10 and 30 mg and are selected so as to be approximately

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proportional to the molecular weight. Acetone above all serves as solvents, but other easily volatile solvents can also be used. The determination is performed in a thermostat at a temperature of 40°C. The end of the reaction is attained when the entire solvent is evaporated from the bottom of the container. This lasts about 3 days. The molecular weight can be calculated from the following formula:

$$M_x = \frac{a_x \cdot b}{b_x \cdot a} M$$
  $M_x$  is the molecular weight sought,  $M$  is the molecular weight of the reference substance,  $a_x$  and  $a$  are the weighed portions concerned,  $b_x$  and  $b$  are the weights of the solvent. Since the molar concentration of the reference substance in the experiment is constant, this formula can be simplified. Calculation of the molecular weight then takes place according to the formula:

$$M_x = K \frac{a_x}{b_x}, \text{ where } K = \frac{b}{a} M$$

This method of isothermal distillation yields well reproducible results. Errors of calculation do not exceed 5%.

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There are 1 figure, 1 table, and 7 references, all of which  
are Slavic.

ASSOCIATION: L'vov Polytechnical Institute (L'vovskiy politekhnicheskiy  
institut)

SUBMITTED: December 4, 1956

AVAILABLE: Library of Congress

1. Organic compounds - Molecular weight - Determination
2. Distillation - Applications

Card 4/4

USCOMM-DC-54,901

BERKMAN, Ya.P., doktor khim.nauk; SHUTER, L.M., kand.khim.nauk

Synthesis and use of water-soluble chromium salts of fatty acids.  
Kozh.-obuv.prom. 2 no.7:18-20 J1 '60. (MIRA 13:8)  
(Tanning) (Fatty acids)

BERKMAN, Ya.P.; SHUPPER, L.M.

Synthesis and use of water-soluble fatty acids of chromium salts.  
Kozh.-obuv.prom. 2 no.8:18-19 Ag '60. (MIRA 13:9)  
(Tanning) (Chromium)

BERKMAN, Ya.P.; SHUTER, L.M.

Structure of products of the condensation of 4,4'-dioxydiphenyl  
sulfone with formaldehyde. Zhur. ob. khim. 31 no. 11:3675-  
3678 N '61. (MIRA 14:11)  
(Sulfone) (Formaldehyde)